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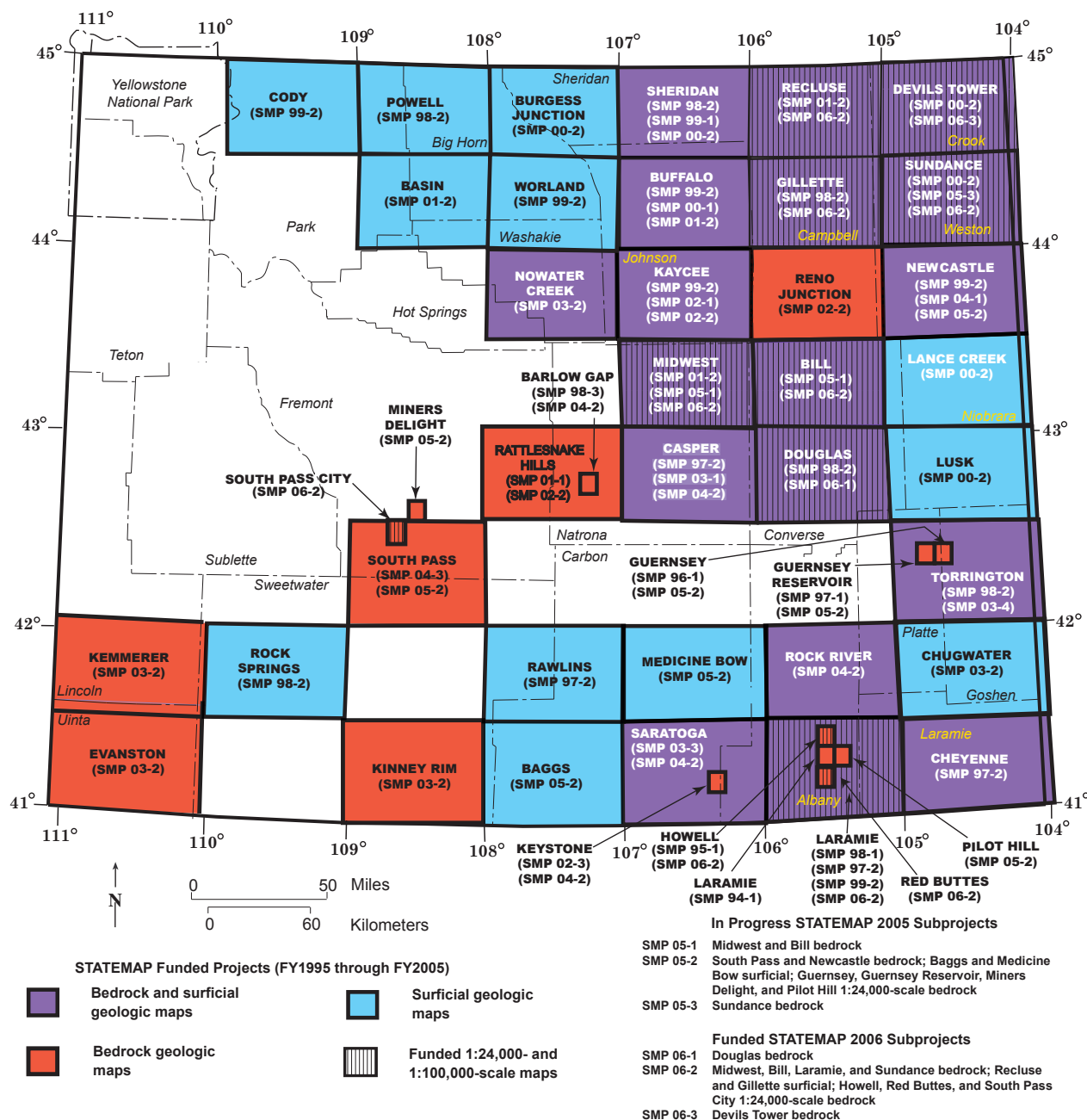
Wyoming State Geological Survey

United States
Geological Survey



National Cooperative Geologic Mapping Program

STATEMAP Component: States compete for federal matching funds for geologic mapping



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Summary of the STATEMAP-funded geologic mapping program in Wyoming.

Fiscal Year	Project description and map scale	State dollars	Federal dollars	Total project dollars
1995	Geologic map of the Laramie Quadrangle, 1:24,000-scale STATEMAP94	\$12,000	\$12,000	\$24,000
1996	Geologic map of the Howell Quadrangle, 1:24,000-scale STATEMAP95	\$10,000	\$10,000	\$20,000
1997	Geologic map of the Guernsey Quadrangle, 1:24,000-scale STATEMAP96	\$8,499	\$8,499	\$16,998
1998	1-Geologic map of the Guernsey Reservoir Quadrangle, 1:24,000-scale STATEMAP97	\$14,000	\$14,000	\$28,000
	2-Digital geologic map of the Cheyenne Quadrangle and digital surficial geologic maps of the Casper, Cheyenne, Laramie, and Rawlins Quadrangles, 1:100,000-scale STATEMAP97	\$17,000	\$17,000	\$34,000
	Total 1998 Funds	\$31,000	\$31,000	\$62,000
1999	1-Geologic map of the Laramie Quadrangle, 1:100,000-scale STATEMAP98	\$18,500	\$18,500	\$37,000
	2-Digital geologic map of the Gillette Quadrangle and surficial geologic maps of the Douglas, Powell, Rock Springs, Sheridan, and Torrington Quadrangles, 1:100,000-scale STATEMAP98	\$20,000	\$20,000	\$40,000
	3-Geologic map of the Barlow Gap Quadrangle, 1:24,000-scale STATEMAP98	\$18,650	\$18,650	\$37,300
	Total 1999 Funds	\$57,150	\$57,150	\$114,300
2000	1-Geologic map of the Sheridan Quadrangle, 1:100,000-scale STATEMAP99	\$19,500	\$19,500	\$39,000
	2-Digital geologic map of the Laramie Quadrangle and digital surficial geologic maps of the Buffalo, Cody, Newcastle, Kaycee, and Worland Quadrangles, 1:100,000-scale STATEMAP99	\$20,000	\$20,000	\$40,000
	Total 2000 Funds	\$39,500	\$39,500	\$79,000
2001	1-Geologic map of the Buffalo Quadrangle, 1:100,000-scale STATEMAP00	\$20,500	\$20,500	\$41,000
	2-Digital geologic map of the Sheridan Quadrangle and digital surficial geologic maps of the Burgess Junction, Devils Tower, Lance Creek, Lusk, and Sundance Quadrangles, 1:100,000-scale STATEMAP00	\$24,500	\$24,500	\$49,000
	Total 2001 Funds	\$45,000	\$45,000	\$90,000
2002	1-Geologic map of the Rattlesnake Hills Quadrangle 1:100,000-scale STATEMAP01	\$24,133	\$24,133	\$48,266
	2-Digital geologic maps of the Buffalo and Recluse Quadrangles and digital surficial geologic maps of the Midwest and Basin Quadrangles 1:100,000-scale STATEMAP01	\$24,796	\$24,796	\$49,592
	3-Entering map data in National Geologic Map Database STATEMAP01	\$6,500	\$6,500	\$13,000
	Total 2002 Funds	\$55,429	\$55,429	\$110,858
2003	1-Geologic map of the Kaycee Quadrangle 1:100,000-scale STATEMAP02	\$23,500	\$23,500	\$47,000
	2-Digital geologic maps of the Kaycee, Reno Junction, and Rattlesnake Hills Quadrangles 1:100,000-scale STATEMAP02	\$18,437	\$18,437	\$36,874
	3-Geologic map of the Keystone Quadrangle 1:24,000-scale STATEMAP02	\$28,976	\$28,976	\$57,952
	Total 2003 Funds	\$70,913	\$70,913	\$141,826
2004	1-Geologic map of the Casper Quadrangle 1:100,000-scale STATEMAP03	\$21,889	\$21,889	\$43,778
	2-Digital geologic maps of the Kinney Rim, Evanson, Kemmerer, and Nowater Creek quadrangles; digital surficial geologic maps of the Nowater Creek and Chugwater quadrangles 1:100,000-scale STATEMAP03	\$16,745	\$16,745	\$33,490
	3-Geologic map of the Saratoga Quadrangle 1:100,000-scale STATEMAP03	\$27,532	\$27,532	\$55,064
	4-Geologic map of the Torrington Quadrangle 1:100,000-scale STATEMAP03	\$23,892	\$23,892	\$47,784
	Total 2004 Funds	\$90,058	\$90,058	\$180,116
2005	1-Geologic map of the Newcastle Quadrangle 1:100,000-scale STATEMAP04	\$22,803	\$22,803	\$45,606
	2-Digital geologic maps of the Casper and Saratoga bedrock and Saratoga and Rock River surficial Quadrangles 1:100,000-scale; Keystone and Barlow Gap Quadrangles 1:24,000-scale STATEMAP04	\$19,295	\$19,295	\$38,590
	3-Geologic map of the South Pass Quadrangle 1:100,000-scale STATEMAP04	\$27,854	\$27,854	\$55,708
	Total 2005 funds	\$69,952	\$69,952	\$139,904
2006	1-Geologic maps of the Midwest and Bill quadrangles 1:100,000-scale STATEMAP05-In Progress	\$33,446	\$33,446	\$66,892
	2-Digital geologic maps of the South Pass and Newcastle bedrock and surficial geologic maps of the Baggs and Medicine Bow quadrangles 1:100,000-scale; Guernsey, Guernsey Reservoir, Miners Delight, and Pilot Hill 1:24,000-scale bedrock quadrangles STATEMAP05-In Progress	\$26,331	\$26,331	\$52,662
	3-Geologic map of the Sundance Quadrangle 1:100,000-scale STATEMAP05-In Progress	\$35,027	\$35,027	\$70,054
	Total 2006 funds	\$94,804	\$94,804	\$189,608
2007	1-Geologic map of Douglas 1:100,000-scale STATEMAP 07-Funded	\$27,597	\$27,597	\$55,194
	2-Digital geologic maps of the Laramie, Bill, Midwest, and Sundance bedrock and surficial geologic maps of the Gillette and Recluse quadrangles 1:100,000 scale; Howell, Red Buttes, and South Pass City bedrock 1:24,000-scale STATEMAP07-Funded	\$28,197	\$28,197	\$56,394
	3-Geologic map of Devils Tower 1:100,000-scale STATEMAP 07-Funded	\$36,077	\$36,077	\$72,154
	Total 2007 Funds	\$91,871	\$91,871	\$183,742
	TOTALS	\$676,176	\$676,176	\$1,352,352

The STATEMAP Program, part of the National Cooperative Geologic Mapping Program (NCGMP), has significantly expanded and has driven the mapping efforts of the Wyoming State Geological Survey (WSGS) over the past ten years. The WSGS completed 57 maps using funding from this program since it became involved in 1994; an additional 13 maps were completed independent of the program's funding. Eleven additional maps are in progress with STATEMAP 2006 funding. Current STATEMAP-supported mapping priorities established by the WSGS in cooperation with the Wyoming Geologic Mapping Advisory Committee include: 1) producing geologic maps to support coalbed methane exploration/production activities and associated ground and surface water protection in the Powder River Basin; 2) mapping the more populated areas of the state to assist city and county planners in siting and land-use planning, and providing information to support water resource protection and development; and 3) mapping to support energy/mineral exploration and development.

Wyoming State Geological Survey STATEMAP Statement of Outcome 2006

Bibliographic citation:

Boyd, C.S., and Ver Ploeg, A.J., 1999, Digital geologic map of the Gillette 30' x 60' Quadrangle, Campbell, Crook, and Weston Counties, northeastern Wyoming: Wyoming State Geological Survey Hazards Section Digital Map HSDM 99-1, scale 1:100,000.

Hallberg, L.L., Lyman, R.M., Boyd, C.S., and Ver Ploeg, A.J., 2002, Preliminary digital geologic map of the Recluse 30' x 60' Quadrangle, Campbell and Crook Counties, Wyoming: Wyoming State Geological Survey Digital Map Series DMS-02-2, scale 1:100,000.

Ver Ploeg, A.J., and Boyd, C.S., 2001, Preliminary digital geologic map of the Sheridan 30' x 60' Quadrangle, Sheridan, Johnson, and Campbell Counties, Wyoming and southern Montana: Wyoming State Geological Survey Hazards Section Digital Map HSDM 01-1, scale 1:100,000.

Ver Ploeg, A.J., 2002, and Boyd, C.S., Preliminary digital geologic map of the Buffalo 30' x 60' Quadrangle, Johnson and Campbell Counties, northern Wyoming: Wyoming State Geological Survey Digital Map Series DMS 02-1, scale 1:100,000.

Paragraph:

Coal bed natural gas (CBNG) exploration and production continues to boom in the Powder River Basin of Wyoming, and associated water disposal problems have driven our top mapping priority. The WSGS recently completed the Northern Powder River Basin geologic, hydrologic, and water quality database project to address these water disposal problems. This 3-D interactive model relates reported water quality data to 3-D modeled coal beds and formations, enabling the user to predict water quality data and plan for the proper disposal of water produced from continuing CBNG development. The Sheridan, Recluse, Gillette, and Buffalo geologic maps generated through funding from the STATEMAP Program were seamed together to form a 1:100,000-scale geologic base for the project area. The 3-D subsurface modeling was then tied to this geologic base. This remains our top priority area as we begin to extend this Powder River Basin geologic, hydrologic, and water quality database project south to encompass the remainder of the basin as CBNG production expands to the south. Most of the mapping projects we are proposing and are working on under STATEMAP 2005 are located in the southern half of the Powder River Basin, addressing the need for mapping as the modeling project extends southward. This database and the associated geologic mapping are critical to the Wyoming Department of Environmental Quality decision-making process as they attempt to regulate water disposal and water resource protection. In addition, the Wyoming State Engineers Office and the Water Development Commission use this database extensively. CBNG exploration and production is currently expanding into the Greater Green River and Hanna basins in southern and southwestern Wyoming. In an effort to be proactive with respect to potential water disposal problems, we anticipate proposing mapping projects in this part of the state as it becomes a geologic mapping priority.